Before the
Public Service Commission of South Carolina

Docket No. 2009-411-G

**Application of Piedmont Natural Gas Company, Inc.
for Approval of Energy Efficiency Programs**

Testimony
of
Steve Lisk

On Behalf Of
Piedmont Natural Gas Company, Inc.

Piedmont Natural Gas Company

December 30, 2009

Q. Mr. Lisk, please state your name and business address.

A. My name is Steve Lisk. My business address is 4720 Piedmont Row Drive, Charlotte, North Carolina.

Q. By whom and in what capacity are you employed?

A. I am employed by Piedmont Natural Gas Company, Inc. ("Piedmont") as Manager of Market Development and Technical Services.

Q. Please describe your educational and professional background.

A. I earned a B.S. in Mechanical Engineering from North Carolina State University in 1985 and have more than 25 years in the energy and related industry experience. I worked 3 years as an intern in commercial power marketing for Duke Power Company (Duke Energy) while working on my engineering degree. In 1986, I was employed as a staff engineer by Livingston and Haven, a private industrial fluid power company. In 1993, I was a partner in a start up company Industrial Automation Components. I began employment with Piedmont in 1999 as a Technical Marketing Engineer and was promoted to Manager of Market Development and Technical Services in 2008.

I am a registered Professional Engineer in North Carolina and a Certified Energy Manager. I am a member of the American Society of Heating Cooling and Refrigeration Engineers (ASHRAE) serving as a local chapter past president and board member. I serve in several gas industry associations including the Southern Gas Association, American Gas Association, as a board member of the Energy Solutions Center and

represent Piedmont's research and development interest with the Gas Technology Institute -- the natural gas industry research center.

Q. Please describe the scope of your present responsibilities for Piedmont.

A. I am responsible for Piedmont's energy and gas technology support services. This includes energy efficiency programs, gas technology research and development, and industry code development.

Q. Mr. Lisk, have you previously testified before the Public Service Commission of South Carolina or any other regulatory authority?

A. I have not testified before this Commission previously, but I have testified before the Tennessee Regulatory Authority.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to describe and support the proposed energy efficiency programs filed by Piedmont in this proceeding.

Q. Could you please describe the energy efficiency programs Piedmont has proposed for implementation in its Petition in this proceeding?

A. Yes. Piedmont has proposed three energy efficiency programs for implementation in South Carolina. These programs are:

(1) Residential Low-Income Energy Efficiency program

(2) High Efficiency Equipment Rebate program

(3) Customer Education Program.

Each of these programs was described in Exhibit A of Piedmont's Petition in this proceeding, but I will briefly describe them here as well. The Residential Low-Income program is designed to provide energy efficiency measures and weatherization assistance to low-income residential customers

in Piedmont's service territory. Piedmont's program is modeled after the United States Department of Energy's Federal Weatherization Assistance program. The target population for this program is low-income residential customers whose annual income is within 200% of the federal poverty level. The target expenditures under the program are $1,500 to $3,500 per residence. Piedmont has experience operating this type of program in North Carolina and the results of the program have included more energy efficiency structures for low-income customers and reduced home heating (and air-conditioning) bills. Piedmont proposes to spend $150,000 per year on this program, part of which will be dedicated to the measurement and verification of program results. A more detailed description of the program was attached to our petition as Exhibit A

Piedmont's High Efficiency Equipment Rebate program will provide rebates for the purchase of qualifying high efficiency natural gas appliances. For residential customers, these appliances include high efficiency space and water heating equipment – since those two energy applications make up the highest percentage of residential natural gas usage. In selecting relative efficiency levels for the equipment eligible under the program, Piedmont utilized efficiency standards that correlate with "Energy Star" appliances. Piedmont proposes to initially offer rebates in the range of $50 to $300 in order to prompt the purchase of higher efficiency equipment, but reserves some flexibility to adjust these amounts if necessary.

Piedmont proposes to expend $150,000 a year on this program of which $112,500 will be utilized as rebates and the remainder of which will be expended on program, administration, program communications, and program evaluation, measurement and verification.

Piedmont also proposes to offer a Customer Education Program. Under this program, Piedmont will expend $50,000 on targeted marketing techniques to promote the efficient utilization of energy and also to advise customers of other potential programs available to assist in achieving more efficient utilization of energy by Piedmont's customers. The idea behind this program is that the most cost-effective energy efficiency program Piedmont can offer is one where customers undertake the steps necessary to increase the efficiency with which they use natural gas by themselves without any direct subsidy by Piedmont or other ratepayers. Piedmont's experience with similar types of communications programs in North Carolina is that customers respond to these types of messages in a desirable way. Some program funding may also be used to sponsor energy efficiency and energy conservation education sessions in local schools.

Q What approach did Piedmont take for justifying the proposed Energy Efficiency Programs?

A In evaluating the proposed Low-Income program, Piedmont felt that performing cost-effectiveness tests would not really establish whether the program was truly cost-effective or not because there are several non-energy societal benefits that are hard to quantify. Through our own experiences administering a low-income program in North Carolina, we knew that low-income customers would benefit from this program, not only from a better comfort and healthy environment perspective, but also from an energy savings perspective.

Piedmont's first low-income assistance weatherization program was in Farmville, North Carolina, where there was a high concentration of older, less energy efficient homes. Piedmont partnered with the North Carolina

State Office of Economic Opportunity to administer this program through one of the community action agencies that administered the Federal low-income program. This program in Farmville addressed whole-house energy efficiency and promoted a whole-community approach. Piedmont provided funding to cover weatherization and energy education services to 100 homes in Farmville over the winter of 2006/2007.

Piedmont compiled and analyzed the natural gas bills[1] for the program participants, comparing their pre-weatherization usage to post-weatherization usage on a weather-normalized basis. Piedmont also hired a third-party energy consultant to analyze the customer's electric[2] usage on a weather-normalized basis. By analyzing the natural gas and electric usage, it showed the savings from a total energy perspective.

Based on the natural gas usage analysis, the average annual savings per customer on a weather-normalized basis was 101 therms (10.1 Dth), which equaled an average annual savings of $130.64[3] per customer. Based on the electric usage analysis, the average annual savings per customer on a weather-normalized basis was 1,012 kWh, which equaled an average annual savings of $126.54 per customer.[4] Evaluating the program from a total energy perspective, the total savings, on a weather-normalized basis, equaled an average annual savings of $257.18 per customer.

According to the Oak Ridge National Laboratory,[5] energy savings is even more important to low-income households because "From 2001 through

[1] Only 89 of the 100 homes could be analyzed on a 12-month pre-weatherization / 12-month post-weatherization basis because some accounts were closed or inactive during the 24-month period.
[2] Only 79 of the 100 homes could be analyzed on a 12-month pre-weatherization / 12-month post-weatherization basis because some accounts were closed or inactive during the 24-month period.
[3] Based on the average residential natural gas rate for the post-weatherization period.
[4] Based on the average residential electric rate for the post-weatherization period.
[5] Short and Long-Term Perspectives: The Impact on Low-Income Consumers of Forecasted Energy Price Increases in 2008 and a Cap-and-Trade Carbon Policy in 2030

2005, the average residential energy burden for low-income households rose from 12.6 percent to 14.6 percent of income. For non-low-income households the average burden was 3.1 percent of income in 2001 and remained essentially unchanged at 3.2 percent of income in 2005."

Piedmont tested the Equipment Rebate Program cost-effectiveness utilizing the industry accepted economic analysis cost/benefit tests established under the California Standard Practice Manual. Specifically, Piedmont used the Total Resource Cost Test (TRC) and the Utility Cost Test (UCT) to evaluate the program.

The TRC takes a holistic approach, representing the combined effect of the program costs and benefits, from the perspective of both the participating and the non-participating customer(s). The analysis is a summation of the benefit and the cost in terms of the Participant Test and the Ratepayer Impact Test.[6] In most jurisdictions, all of the cost-effectiveness tests may be evaluated, but the TRC typically serves as the primary test to determine whether a program makes sense and whether the total cost for meeting the energy service needs increase or decrease as a result of the program.[7] The TRC benefits include the avoided costs of the program and can include any additional monetized savings such as water reduction, environmental benefits or applicable tax savings. The cost includes both the cost incurred by the administrator for sponsoring the programs and the cost incurred by the participant.

The UCT evaluates program effectiveness from the administrator or the utility perspective. The benefits are the avoided cost of the program

[6] Total Resource Cost Test definitions – California Standard Practice Manual July 2002.
[7] Regulatory Assistance Project (RAP) – Benefits Costs Test for Energy Efficiency, Kansas Corporation Commission March 25, 2008.

including energy and capacity requirements. The costs involved with the UCT are those costs that are incurred by the administrator for sponsoring the programs. If the cost avoided by the program outweighs the cost of sponsoring the program, then the tests are considered to be beneficial to the administrator. The Utility Cost Test is also referred to as the Program Administrator Cost Test.

Both the Total Resource Cost Test and the Utility Cost Test produced positive results for the program.

For the Customer Education Program, Piedmont did not attempt to apply any cost effectiveness testing to the energy education programs due to the difficulty in capturing specific energy savings and adoption of energy conservation practices resulting from the program. Rather, Piedmont does plan to utilize appropriate and effective communication channels for communicating to mass markets and delivering our energy efficiency message through those proven channels. These channels could include, but are not limited to, television, company website, electronic or social media outlets, bill inserts and print advertising.

Q. How does Piedmont propose to measure and evaluate the proposed Energy Efficiency Programs?

A. The Residential Low-Income program and the Equipment Rebate program will be directly measured and verified, and funds for these functions are built into the program budget. Piedmont intends to contract with a third-party energy consultant to perform an appropriate Evaluation, Measurement and Verification of the Residential Low-Income program and the Equipment Rebate program. The energy consultant will use standard industry accepted procedures to perform an impact evaluation of the program. Through this

analysis, the energy consultant will be able to provide Piedmont with the calculated energy savings of the programs. These energy savings will be reported to the Office of Regulatory Staff on an annual basis.

The effectiveness of the Customer Education Program will not be directly measured because Piedmont has no ready means of doing so, but Piedmont will survey its target audience under the program to obtain anecdotal indications of effectiveness.

Q. Does this conclude your testimony?

A. Yes it does.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the attached *Testimony of Steve Lisk on Behalf of Piedmont Natural Gas Company, Inc.* is being served this date electronically and via UPS Overnight (5 copies) upon:

Jeffrey M. Nelson
Shannon B. Hudson
Office of Regulatory Staff
1401 Main Street
Suite 900
Columbia, South Carolina 29201
jnelson@regstaff.sc.gov
shudson@regstaff.sc.gov

And that a copy of the attached *Testimony of Steve Lisk on Behalf of Piedmont Natural Gas Company, Inc.* is being served this date electronically or via U.S. Mail upon:

Jane Lewis-Raymond
Vice President and General Counsel
Piedmont Natural Gas Company, Inc.
Post Office Box 33068
Charlotte, NC 28233
jane.lewis-raymond@piedmontng.com

Pia Powers
Manager, Regulatory Affairs
Piedmont Natural Gas Company, Inc.
Post Office Box 33068
Charlotte, NC 28233
pia.powers@piedmontng.com

This the 30th day of December, 2009.

s/ Scott M. Tyler
Scott M. Tyler